```
Connecting via Winsock to STN


Welcome to STN International!  Enter x:X

LOGINID:SSSPTA1644PNH

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2           "Ask CAS" for self-help around the clock
 NEWS  3  OCT 23   The Derwent World Patents Index suite of databases on STN
                   has been enhanced and reloaded
 NEWS  4  OCT 30   CHEMLIST enhanced with new search and display field
 NEWS  5  NOV 03   JAPIO enhanced with IPC 8 features and functionality
 NEWS  6  NOV 10   CA/CAplus F-Term thesaurus enhanced
 NEWS  7  NOV 10   STN Express with Discover! free maintenance release Version
                   8.01c now available
 NEWS  8  NOV 20   CAS Registry Number crossover limit increased to 300,000 in
                   additional databases
 NEWS  9  NOV 20   CA/CAplus to MARPAT accession number crossover limit increased
                   to 50,000
 NEWS 10  DEC 01   CAS REGISTRY updated with new ambiguity codes
 NEWS 11  DEC 11   CAS REGISTRY chemical nomenclature enhanced
 NEWS 12  DEC 14   WPIDS/WPINDEX/WPIX manual codes updated
 NEWS 13  DEC 14   GBFULL and FRFULL enhanced with IPC 8 features and
                   functionality
 NEWS 14  DEC 18   CA/CAplus pre-1967 chemical substance index entries enhanced
                   with preparation role
 NEWS 15  DEC 18   CA/CAplus patent kind codes updated
 NEWS 16  DEC 18   MARPAT to CA/CAplus accession number crossover limit increased
                   to 50,000
 NEWS 17  DEC 18   MEDLINE updated in preparation for 2007 reload
 NEWS 18  DEC 27   CA/CAplus enhanced with more pre-1907 records
 NEWS 19  JAN 08   CHEMLIST enhanced with New Zealand Inventory of Chemicals
 NEWS 20  JAN 16   CA/CAplus Company Name Thesaurus enhanced and reloaded
 NEWS 21  JAN 16   IPC version 2007.01 thesaurus available on STN
 NEWS 22  JAN 16   WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data

 NEWS EXPRESS  NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items
 NEWS IPC8     For general information regarding STN implementation of IPC 8
 NEWS X25      X.25 communication option no longer available

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN Customer
  agreement.  Please note that this agreement limits use to scientific
  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *
```

FILE 'HOME' ENTERED AT 12:50:25 ON 22 JAN 2007

=> file medline embase biosis scisearch caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.21 0.21

FILE 'MEDLINE' ENTERED AT 12:50:45 ON 22 JAN 2007

FILE 'EMBASE' ENTERED AT 12:50:45 ON 22 JAN 2007
Copyright (c) 2007 Elsevier B.V. All rights reserved.

FILE 'BIOSIS' ENTERED AT 12:50:45 ON 22 JAN 2007
Copyright (c) 2007 The Thomson Corporation

FILE 'SCISEARCH' ENTERED AT 12:50:45 ON 22 JAN 2007
Copyright (c) 2007 The Thomson Corporation

FILE 'CAPLUS' ENTERED AT 12:50:45 ON 22 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

=> s apoptotic bodies
L1 7817 APOPTOTIC BODIES

=> s l1 and blood
L2 1025 L1 AND BLOOD

=> s l2 and plasma
L3 120 L2 AND PLASMA

=> s l3 and serum
L4 34 L3 AND SERUM

=> s l4 and detection
L5 12 L4 AND DETECTION

=> s l5 and nucleolin
L6 1 L5 AND NUCLEOLIN

=> d l6 cbib abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
2004:20982 Document No. 140:90312 A method for the **detection** of apoptosis via determination of **nucleolin** and/or PARP-1 in the sample. Bates, Paula J.; Mi, Yingchang (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the **detection** of apoptosis by measuring **apoptotic bodies** shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of **nucleolin** and PARP-1 in the sample. The **detection** of either (or both) compds. comprises the **detection** of a

nucleolin (PARP-1)-binding mol.-**nucleolin** (PARP-1) complex. The binding mols. are anti-**nucleolin** (anti-PARP-1) antibodies and for **nucleolin** also guanosine-rich oligonucleotides. The sample can be **blood**, **serum**, **plasma**, tissue, tissue culture medium, or sputum. The method can be used to determine excessive apoptosis via preparing a **blood** sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

=> dup remove l5
PROCESSING COMPLETED FOR L5
L7 8 DUP REMOVE L5 (4 DUPLICATES REMOVED)

=> d l7 1-8 cbib abs

L7 ANSWER 1 OF 8 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
2006496393 EMBASE Circulating nucleic acids in **plasma/serum** and tumor progression: Are **apoptotic bodies** involved?
An experimental study in a rat cancer model. Samos J.; Garcia-Olmo D.C.; Picazo M.G.; Rubio-Vitaller A.; Garcia-Olmo D.. Prof. D. Garcia-Olmo, Servicio de Cirugia General-C, Hospital Universitario La Paz, Paseo Castellana 261, 28046 Madrid, Spain. damian.garcia@uam.es. Annals of the New York Academy of Sciences Vol. 1075, pp. 165-173 2006. Editor: Swaminathan R.
Refs: 31.
ISSN: 0077-8923. E-ISSN: 1749-6632. ISBN: 157331627X. CODEN: ANYAA
Pub. Country: United States. Language: English. Summary Language: English.
Entered STN: 20061027. Last Updated on STN: 20061027
AB The "genometastasis hypothesis" proposes that cell-free tumor nucleic acids might be able to transform host stem cells, and that this might be a pathway for the development of metastases. This theory is supported by previous experimental findings and is consistent with observations of other authors. It has been suggested that tumor DNA might be horizontally transferred by the uptake of **apoptotic bodies** and initiate the genetic changes that are necessary for tumor formation. In addition, **apoptotic bodies** have been proposed as possible vehicles that protect the nucleic acids circulating in the **plasma** from enzymatic degradation. In the present study, we analyzed the presence of **apoptotic bodies** in **serum** and its relationship with tumor progression in a heterotopic model of colon cancer in the rat. We injected DHD/K12-PROb cancer cells subcutaneously into BD-IX rats and divided the animals into three groups according to the time between the injection of tumor cells and euthanasia. A control group of healthy animals was included (n = 6). After euthanasia, macroscopic metastases were assessed and samples of **blood** were collected. To detect **apoptotic bodies** in the **sera**, each sample was mixed with FITC-conjugated annexin V antibody in combination with propidium iodide and then analyzed by flow cytometry. **Detection** of **apoptotic bodies** was only significantly increased in the **sera** of a few tumor-bearing animals in late stages of tumor development. Thus, such particles appear not to be the vehicle of the cell-free tumor nucleic acids that are detected at early stages of cancer. .COPYRGT. 2006 New York Academy of Sciences.

L7 ANSWER 2 OF 8 MEDLINE on STN DUPLICATE 1
2006670327. PubMed ID: 17108207. Circulating nucleic acids in **plasma/serum** and tumor progression: are **apoptotic bodies** involved? An experimental study in a rat cancer model. Samos Julia; Garcia-Olmo Dolores C; Picazo Maria G; Rubio-Vitaller Antonio; Garcia-Olmo Damian. (Experimental Research Unit, General University Hospital of Albacete, Albacete, Spain.) Annals of the

New York Academy of Sciences, (2006 Sep) Vol. 1075, pp. 165-73. Journal code: 7506858. ISSN: 0077-8923. Pub. country: United States. Language: English.

AB The "genometastasis hypothesis" proposes that cell-free tumor nucleic acids might be able to transform host stem cells, and that this might be a pathway for the development of metastases. This theory is supported by previous experimental findings and is consistent with observations of other authors. It has been suggested that tumor DNA might be horizontally transferred by the uptake of **apoptotic bodies** and initiate the genetic changes that are necessary for tumor formation. In addition, **apoptotic bodies** have been proposed as possible vehicles that protect the nucleic acids circulating in the **plasma** from enzymatic degradation. In the present study, we analyzed the presence of **apoptotic bodies** in **serum** and its relationship with tumor progression in a heterotopic model of colon cancer in the rat. We injected DHD/K12-PROb cancer cells subcutaneously into BD-IX rats and divided the animals into three groups according to the time between the injection of tumor cells and euthanasia. A control group of healthy animals was included (n = 6). After euthanasia, macroscopic metastases were assessed and samples of **blood** were collected. To detect **apoptotic bodies** in the **sera**, each sample was mixed with FITC-conjugated annexin V antibody in combination with propidium iodide and then analyzed by flow cytometry. **Detection** of **apoptotic bodies** was only significantly increased in the **sera** of a few tumor-bearing animals in late stages of tumor development. Thus, such particles appear not to be the vehicle of the cell-free tumor nucleic acids that are detected at early stages of cancer.

L7 ANSWER 3 OF 8 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

2006:279900 Document No.: PREV200600286904. Method enabling use of extracellular RNA extracted from **plasma** or **serum** to detect, monitor or evaluate cancer. Kopreski, Michael S. [Inventor]. Portage, MI USA. ASSIGNEE: Oncomedx, Inc.. Patent Info.: US 06939671 20050906. Official Gazette of the United States Patent and Trademark Office Patents, (SEP 6 2005)
CODEN: OGUPE7. ISSN: 0098-1133. Language: English.

AB This invention relates to the use of tumor-derived or associated extracellular ribonucleic acid (RNA) found circulating in the **plasma** or **serum** fraction of **blood** for the **detection**, monitoring, or evaluation of cancer or premalignant conditions. Extracellular RNA may circulate as non-bound RNA, protein-bound RNA, lipid-RNA complexes, lipoprotein (proteolipid)-RNA complexes, protein-RNA complexes including within or in association with ribonucleoprotein complexes, nucleosomes, or within **apoptotic bodies.** Any intracellular RNA found in **plasma** or **serum** can additionally be detected by this invention. Specifically, this invention enables the extraction of circulating RNA from **plasma** or **serum** and utilizes nucleic acid amplification assays for the identification, **detection**, inference, monitoring, or evaluation of any neoplasm, benign, premalignant, or malignant, in humans or other animals, which might be associated with that RNA. Further, this invention allows the qualitative or quantitative **detection** of tumor-derived or associated extracellular RNA circulating in the **plasma** or **serum** of humans or animals with or without any prior knowledge of the presence of cancer or premalignant tissue.

L7 ANSWER 4 OF 8 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

2006:243150 Document No.: PREV200600252319. Method enabling use of extracellular RNA extracted from **plasma** or **serum** to detect, monitor or evaluate cancer. Kopreski, Michael S. [Inventor]. Long Valley, NJ USA. ASSIGNEE: OncoMEDx, Inc.. Patent Info.: US 06916634 20050712. Official Gazette of the United States Patent and Trademark Office Patents, (JUL 12 2005)

CODEN: OGUPE7. ISSN: 0098-1133. Language: English.

AB This invention relates to the use of tumor-derived or associated extracellular ribonucleic acid (RNA) found circulating in the **plasma** or **serum** fraction of **blood** for the **detection**, monitoring, or evaluation of cancer or premalignant conditions. Extracellular RNA may circulate as non-bound RNA, protein-bound RNA, lipid-RNA complexes, lipoprotein (proteolipid)-RNA complexes, protein-RNA complexes including within or in association with ribonucleoprotein complexes, nucleosomes, or within **apoptotic bodies**. Any intracellular RNA found in **plasma** or **serum** can additionally be detected by this invention. Specifically, this invention enables the extraction of circulating RNA from **plasma** or **serum** and utilizes nucleic acid amplification assays for the identification, **detection**, inference, monitoring, or evaluation of any neoplasm, benign, premalignant, or malignant, in humans or other animals, which might be associated with that RNA. Further, this invention allows the qualitative or quantitative **detection** of tumor-derived or associated extracellular RNA circulating in the **plasma** or **serum** of humans or animals with or without any prior knowledge of the presence of cancer or premalignant tissue.

L7 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

2004:20982 Document No. 140:90312 A method for the **detection** of apoptosis via determination of nucleolin and/or PARP-1 in the sample. Bates, Paula J.; Mi, Yingchang (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the **detection** of apoptosis by measuring **apoptotic bodies** shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of nucleolin and PARP-1 in the sample. The **detection** of either (or both) compds. comprises the **detection** of a nucleolin (PARP-1)-binding mol.-nucleolin (PARP-1) complex. The binding mols. are anti-nucleolin (anti-PARP-1) antibodies and for nucleolin also guanosine-rich oligonucleotides. The sample can be **blood**, **serum**, **plasma**, tissue, tissue culture medium, or sputum. The method can be used to determine excessive apoptosis via preparing a **blood** sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

L7 ANSWER 6 OF 8 MEDLINE on STN DUPLICATE 2

2004090891. PubMed ID: 14718398. Characterization of amplifiable, circulating RNA in **plasma** and its potential as a tool for cancer diagnostics. El-Hefnawy Talal; Raja Siva; Kelly Lori; Bigbee William L; Kirkwood John M; Luketich James D; Godfrey Tony E. (Division of Thoracic Surgery, School of Medicine, Hillman Cancer Center, University of Pittsburgh, Pittsburgh, PA 15213, USA.) Clinical chemistry, (2004 Mar) Vol. 50, No. 3, pp. 564-73. Electronic Publication: 2004-01-12. Journal code: 9421549. ISSN: 0009-9147. Pub. country: United States. Language: English.

AB BACKGROUND: Several recent reports have described the **detection** of circulating, cancer-related RNA molecules in **serum** or

plasma from cancer patients, but little is known about the biology of this extracellular RNA. We aimed to determine how RNA is protected against degradation in **serum**, to optimize RNA isolation from large volumes of **serum**, and to test our optimized assays for **serum**-based cancer **detection.** METHODS: We used quantitative reverse transcription-PCR (QRT-PCR) analysis to investigate the isolation and biology of extracellular **plasma** RNA. We then examined the presence of amplifiable RNA transcripts in **plasma** and **serum** from controls and from patients with esophageal cancer and malignant melanoma. RESULTS: We found that extracellular RNA in **plasma** is highly degraded and can be isolated most efficiently by guanidinium-phenol extraction followed by precipitation. Extracellular RNA is stable in **serum** for up to 3 h but is destroyed immediately by addition of detergents. Extracellular RNA can be captured on 0.2 microm filters, allowing concentration of RNA from several milliliters of **plasma.** When we concentrated RNA from up to 4 mL of **serum**, **detection** of cancer-related transcripts in **serum** from cancer patients and controls was infrequent and inconsistent. CONCLUSIONS: Extracellular RNA is most likely protected within protein or lipid vesicles, possibly **apoptotic bodies**, which can be disrupted by detergents. Despite optimizing many aspects of **plasma** RNA **detection**, we were unable to reproducibly detect cancer-related transcripts. Our data suggest that measurement of circulating RNA may not be a good approach to early cancer diagnosis.

L7 ANSWER 7 OF 8 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2002:113843 Document No.: PREV200200113843. Method enabling use of extracellular RNA extracted from **plasma** or **serum** to detect, monitor or evaluate cancer. Kopreski, Michael S. [Inventor, Reprint author]. Long Valley, NJ, USA. ASSIGNEE: OncoMEDx, Inc., Long Valley, NJ, USA. Patent Info.: US 6329179 20011211. Official Gazette of the United States Patent and Trademark Office Patents, (Dec. 11, 2001) Vol. 1253, No. 2. http://www.uspto.gov/web/menu/patdata.html. e-file. CODEN: OGUPE7. ISSN: 0098-1133. Language: English.

AB This invention relates to the use of tumor-derived or associated extracellular ribonucleic acid (RNA) found circulating in the **plasma** or **serum** fraction of **blood** for the **detection**, monitoring, or evaluation of cancer or premalignant conditions. Extracellular RNA may circulate as non-bound RNA, protein-bound RNA, lipid-RNA complexes, lipoprotein (proteolipid)--RNA complexes, protein-RNA complexes including within or in association with ribonucleoprotein complexes, nucleosomes, or within **apoptotic bodies.** Any intracellular RNA found in **plasma** or **serum** can additionally be detected by this invention. Specifically, this invention enables the extraction of circulating RNA from **plasma** or **serum** and utilizes nucleic acid amplification assays for the identification, **detection**, inference, monitoring, or evaluation of any neoplasm, benign, premalignant, or malignant, in humans or other animals, which might be associated with that RNA. Further, this invention allows the qualitative or quantitative **detection** of tumor-derived or associated extracellular RNA circulating in the **plasma** or **serum** of humans or animals with or without any prior knowledge of the presence of cancer or premalignant tissue.

L7 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN
1997:650277 Document No. 127:315563 Extraction, amplification, and **detection** of extracellular tumor-derived RNA from **plasma** or **serum** to detect, monitor or evaluate cancer. Kopreski, Michael S. (Kopreski, Michael S., USA). PCT Int. Appl. WO 9735589 A1 19971002, 54 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG,

US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1997-US3479 19970314. PRIORITY: US 1996-14730 19960326.

AB This invention relates to the use of tumor-derived or associated extracellular RNA found circulating in the **plasma** or **serum** fraction of **blood** for the **detection**, monitoring, or evaluation of cancer or premalignant conditions. Extracellular RNA may circulate as non-bound RNA, protein-bound RNA, lipid-RNA complexes, lipoprotein (proteolipid)-RNA complexes, protein-RNA complexes including within or in association with ribonucleoprotein complexes, nucleosomes, or within **apoptotic bodies**. Any intracellular RNA found in **plasma** or **serum** can addnl. be detected by this invention. Specifically, this invention enables the extraction of circulating RNA from **plasma** or **serum** and utilizes nucleic acid amplification assays for the identification, **detection**, inference, monitoring, or evaluation of any neoplasm, benign, premalignant, or malignant, in humans or other animals, which might be associated with that RNA. Further, this invention allows the qual. or quant. **detection** of tumor-derived or associated extracellular RNA circulating in the **plasma** or **serum** of humans or animals with or without any prior knowledge of the presence of cancer or premalignant tissue. In a typical example, keratin 19 mRNA is extracted from **blood serum** using the silica extraction method, followed by RT-PCR amplification with ELISA **detection**; pos. testing for extracellular keratin 19 mRNA suggests an impending cancer recurrence in a woman who had been treated for breast cancer two years ago.

```
=> s l2 and nucleolin
L8            2 L2 AND NUCLEOLIN

=> dup remove l8
PROCESSING COMPLETED FOR L8
L9            2 DUP REMOVE L8 (0 DUPLICATES REMOVED)

=> d l9 1-2 cbib abs
```

L9 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN

2004:20982 Document No. 140:90312 A method for the detection of apoptosis via determination of **nucleolin** and/or PARP-1 in the sample. Bates, Paula J.; Mi, Yingchang (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the detection of apoptosis by measuring **apoptotic bodies** shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of **nucleolin** and PARP-1 in the sample. The detection of either (or both) compds. comprises the detection of a **nucleolin** (PARP-1)-binding mol.-**nucleolin** (PARP-1) complex. The binding mols. are anti-**nucleolin** (anti-PARP-1) antibodies and for **nucleolin** also guanosine-rich oligonucleotides. The sample can be **blood**, serum, plasma, tissue, tissue culture medium, or sputum. The method can be used to determine excessive apoptosis via preparing a **blood** sample from a subject suspected of having a disease selected from the group consisting of AIDS,

neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

L9 ANSWER 2 OF 2 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2003:201624 Document No.: PREV200300201624. Apoptosis in leukemia cells is accompanied by alterations in the levels and localization of **nucleolin.** Mi, Yingchang; Thomas, Shelia D.; Xu, Xiaohua; Casson, Lavona K.; Miller, Donald M.; Bates, Paula J. [Reprint Author]. 570 S. Preston St., 204B Baxter Bldg., Louisville, KY, 40202, USA. paula.bates@louisville.edu. Journal of Biological Chemistry, (March 7 2003) Vol. 278, No. 10, pp. 8572-8579. print.
CODEN: JBCHA3. ISSN: 0021-9258. Language: English.

AB Molecular defects in apoptotic pathways are thought to often contribute to the abnormal expansion of malignant cells and their resistance to chemotherapy. Therefore, a comprehensive knowledge of the mechanisms controlling induction of apoptosis and subsequent cellular disintegration could result in improved methods for prognosis and treatment of cancer. In this study, we have examined apoptosis-induced alterations in two proteins, **nucleolin** and poly(ADP-ribose) polymerase-1 (PARP-1), in U937 leukemia cells. **Nucleolin** is expressed at high levels in malignant cells, and it is a multifunctional and mobile protein that can shuttle among the nucleolus, nucleoplasm, cytoplasm, and plasma membrane. Here, we report our findings that UV irradiation or camptothecin treatment of U937 cells induced apoptosis and caused a significant change in the levels and localization of **nucleolin** within the nucleus. Additionally, **nucleolin** levels were dramatically decreased in extracts containing the cytoplasm and plasma membrane. These alterations could be abrogated by pre-incubation with an inhibitor of PARP-1 (3-aminobenzamide), and our data support a potential role for **nucleolin** in removing cleaved PARP-1 from dying cells. Furthermore, both **nucleolin** and cleaved PARP-1 were detected in the culture medium of cells undergoing apoptosis, associated with particles of a size consistent with **apoptotic bodies.** These results indicate that **nucleolin** plays an important role in apoptosis, and could be a useful marker for assessing apoptosis or detecting **apoptotic bodies.** In addition, the data provide a possible explanation for the appearance of **nucleolin** and PARP-1 autoantibodies in some autoimmune diseases.

=> s l2 and PARP-1
L10 2 L2 AND PARP-1

=> dup remove l10
PROCESSING COMPLETED FOR L10
L11 2 DUP REMOVE L10 (0 DUPLICATES REMOVED)

=> d l11 1-2 cbib abs

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
2004:20982 Document No. 140:90312 A method for the detection of apoptosis via determination of nucleolin and/or **PARP-1** in the sample. Bates, Paula J.; Mi, Yingchang (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp.
DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2.
APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the detection of apoptosis by measuring **apoptotic**

bodies shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of nucleolin and **PARP-1** in the sample. The detection of either (or both) compds. comprises the detection of a nucleolin (**PARP-1**)-binding mol.-nucleolin (**PARP-1**) complex. The binding mols. are anti-nucleolin (anti-**PARP-1**) antibodies and for nucleolin also guanosine-rich oligonucleotides. The sample can be **blood**, serum, plasma, tissue, tissue culture medium, or sputum. The method can be used to determine excessive apoptosis via preparing a **blood** sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

L11 ANSWER 2 OF 2 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2003:201624 Document No.: PREV200300201624. Apoptosis in leukemia cells is accompanied by alterations in the levels and localization of nucleolin. Mi, Yingchang; Thomas, Shelia D.; Xu, Xiaohua; Casson, Lavona K.; Miller, Donald M.; Bates, Paula J. [Reprint Author]. 570 S. Preston St., 204B Baxter Bldg., Louisville, KY, 40202, USA. paula.bates@louisville.edu. Journal of Biological Chemistry, (March 7 2003) Vol. 278, No. 10, pp. 8572-8579. print.
CODEN: JBCHA3. ISSN: 0021-9258. Language: English.
AB Molecular defects in apoptotic pathways are thought to often contribute to the abnormal expansion of malignant cells and their resistance to chemotherapy. Therefore, a comprehensive knowledge of the mechanisms controlling induction of apoptosis and subsequent cellular disintegration could result in improved methods for prognosis and treatment of cancer. In this study, we have examined apoptosis-induced alterations in two proteins, nucleolin and poly(ADP-ribose) polymerase-1 (**PARP-1**), in U937 leukemia cells. Nucleolin is expressed at high levels in malignant cells, and it is a multifunctional and mobile protein that can shuttle among the nucleolus, nucleoplasm, cytoplasm, and plasma membrane. Here, we report our findings that UV irradiation or camptothecin treatment of U937 cells induced apoptosis and caused a significant change in the levels and localization of nucleolin within the nucleus. Additionally, nucleolin levels were dramatically decreased in extracts containing the cytoplasm and plasma membrane. These alterations could be abrogated by pre-incubation with an inhibitor of **PARP-1** (3-aminobenzamide), and our data support a potential role for nucleolin in removing cleaved **PARP-1** from dying cells. Furthermore, both nucleolin and cleaved **PARP-1** were detected in the culture medium of cells undergoing apoptosis, associated with particles of a size consistent with **apoptotic bodies.** These results indicate that nucleolin plays an important role in apoptosis, and could be a useful marker for assessing apoptosis or detecting **apoptotic bodies.** In addition, the data provide a possible explanation for the appearance of nucleolin and **PARP-1** autoantibodies in some autoimmune diseases.

```
=> s l3 and poly-ADP-ribose polymerase 1
L12          2 L3 AND POLY-ADP-RIBOSE POLYMERASE 1

=> dup remove l12
PROCESSING COMPLETED FOR L12
L13          2 DUP REMOVE L12 (0 DUPLICATES REMOVED)

=> d l13 1-2 cbib abs

L13 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
2004:20982 Document No. 140:90312 A method for the detection of apoptosis
    via determination of nucleolin and/or PARP-1 in the sample. Bates, Paula
    J.; Mi, Yingchang (University of Louisville Research Foundation, Inc.,
```

USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the detection of apoptosis by measuring **apoptotic bodies** shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of nucleolin and PARP-1 in the sample. The detection of either (or both) compds. comprises the detection of a nucleolin (PARP-1)-binding mol.-nucleolin (PARP-1) complex. The binding mols. are anti-nucleolin (anti-PARP-1) antibodies and for nucleolin also guanosine-rich oligonucleotides. The sample can be **blood**, serum, **plasma**, tissue, tissue culture medium, or sputum. The method can be used to determine excessive apoptosis via preparing a **blood** sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

L13 ANSWER 2 OF 2 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

2003:201624 Document No.: PREV200300201624. Apoptosis in leukemia cells is accompanied by alterations in the levels and localization of nucleolin. Mi, Yingchang; Thomas, Shelia D.; Xu, Xiaohua; Casson, Lavona K.; Miller, Donald M.; Bates, Paula J. [Reprint Author]. 570 S. Preston St., 204B Baxter Bldg., Louisville, KY, 40202, USA. paula.bates@louisville.edu. Journal of Biological Chemistry, (March 7 2003) Vol. 278, No. 10, pp. 8572-8579. print.
CODEN: JBCHA3. ISSN: 0021-9258. Language: English.

AB Molecular defects in apoptotic pathways are thought to often contribute to the abnormal expansion of malignant cells and their resistance to chemotherapy. Therefore, a comprehensive knowledge of the mechanisms controlling induction of apoptosis and subsequent cellular disintegration could result in improved methods for prognosis and treatment of cancer. In this study, we have examined apoptosis-induced alterations in two proteins, nucleolin and **poly(ADP-ribose) polymerase-1** (PARP-1), in U937 leukemia cells. Nucleolin is expressed at high levels in malignant cells, and it is a multifunctional and mobile protein that can shuttle among the nucleolus, nucleoplasm, cytoplasm, and **plasma** membrane. Here, we report our findings that UV irradiation or camptothecin treatment of U937 cells induced apoptosis and caused a significant change in the levels and localization of nucleolin within the nucleus. Additionally, nucleolin levels were dramatically decreased in extracts containing the cytoplasm and **plasma** membrane. These alterations could be abrogated by pre-incubation with an inhibitor of PARP-1 (3-aminobenzamide), and our data support a potential role for nucleolin in removing cleaved PARP-1 from dying cells. Furthermore, both nucleolin and cleaved PARP-1 were detected in the culture medium of cells undergoing apoptosis, associated with particles of a size consistent with **apoptotic bodies.** These results indicate that nucleolin plays an important role in apoptosis, and could be a useful marker for assessing apoptosis or detecting **apoptotic bodies.** In addition, the data provide a possible explanation for the appearance of nucleolin and PARP-1 autoantibodies in some autoimmune diseases.

=> s apoptosis detection
L14 1211 APOPTOSIS DETECTION

```
=> s l14 and antibod?
L15         201 L14 AND ANTIBOD?

=> s l15 and nucleolin
L16           1 L15 AND NUCLEOLIN

=> d l16 cbib abs

L16  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
2004:20982   Document No. 140:90312  A method for the detection of apoptosis
     via determination of nucleolin and/or PARP-1 in the sample.
     Bates, Paula J.; Mi, Yingchang (University of Louisville Research
     Foundation, Inc., USA).  PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp.
     DESIGNATED STATES: W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ,
     CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,
     GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
     LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO,
     RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN,
     YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ,
     CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC,
     ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.  (English).  CODEN: PIXXD2.
     APPLICATION: WO 2003-US20167 20030626.  PRIORITY: US 2002-392143P
     20020626.
AB   Methods for the detection of apoptosis by measuring apoptotic bodies shed
     by apoptotic cells are provided, as are kits to carry out such methods.
     The method comprises preparing a sample from which cells have been removed
     and determining at least one of nucleolin and PARP-1 in the sample.
     The detection of either (or both) compds. comprises the detection of a
     nucleolin (PARP-1)-binding mol.-nucleolin (PARP-1)
     complex.  The binding mols. are anti-nucleolin (anti-PARP-1)
     antibodies and for nucleolin also guanosine-rich
     oligonucleotides.  The sample can be blood, serum, plasma, tissue, tissue
     culture medium, or sputum.  The method can be used to determine excessive
     apoptosis via preparing a blood sample from a subject suspected of having a
     disease selected from the group consisting of AIDS, neurodegenerative
     disease, ischemic injury, autoimmune disease, tumor, cancer, viral
     infection, acute inflammation, and sepsis.


=> s l15 and PARP-1
L17           1 L15 AND PARP-1

=> d l17 cbib abs

L17  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
2004:20982   Document No. 140:90312  A method for the detection of apoptosis
     via determination of nucleolin and/or PARP-1 in the
     sample.  Bates, Paula J.; Mi, Yingchang (University of Louisville Research
     Foundation, Inc., USA).  PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp.
     DESIGNATED STATES: W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ,
     CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,
     GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
     LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO,
     RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN,
     YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ,
     CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC,
     ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.  (English).  CODEN: PIXXD2.
     APPLICATION: WO 2003-US20167 20030626.  PRIORITY: US 2002-392143P
     20020626.
AB   Methods for the detection of apoptosis by measuring apoptotic bodies shed
     by apoptotic cells are provided, as are kits to carry out such methods.
     The method comprises preparing a sample from which cells have been removed
     and determining at least one of nucleolin and PARP-1 in the
     sample.  The detection of either (or both) compds. comprises the detection
```

of a nucleolin (**PARP-1**)-binding mol.-nucleolin (**PARP-1**) complex. The binding mols. are anti-nucleolin (anti-**PARP-1**) **antibodies** and for nucleolin also guanosine-rich oligonucleotides. The sample can be blood, serum, plasma, tissue, tissue culture medium, or sputum. The method can be used to determine excessive apoptosis via preparing a blood sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

```
=> s (bates p?/au or mi y?/au)
L18       3149 (BATES P?/AU OR MI Y?/AU)

=> s l18 and apoptosis
L19         41 L18 AND APOPTOSIS

=> s l19 and serum
L20          7 L19 AND SERUM

=> dup remove l20
PROCESSING COMPLETED FOR L20
L21           3 DUP REMOVE L20 (4 DUPLICATES REMOVED)

=> d l21 1-3 cbib abs
```

L21 ANSWER 1 OF 3 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN

2006:609547 The Genuine Article (R) Number: 055SJ. Proliferating effects of the flavonoids daidzein and quercetin on cultured chicken primordial germ cells through antioxidant action. Tang X Y; Zhang C Q (Reprint); Zeng W D; **Mi Y L**; Liu H Y. Zhejiang Univ, Dept Vet Med, Coll Anim Sci, 268 Kaixuan Rd, Hangzhou 310029, Zhejiang, Peoples R China (Reprint); Zhejiang Univ, Dept Vet Med, Coll Anim Sci, Hangzhou 310029, Zhejiang, Peoples R China. cqzhang@zju.edu.cn. CELL BIOLOGY INTERNATIONAL (MAY 2006) Vol. 30, No. 5, pp. 445-451. ISSN: 1065-6995. Publisher: ACADEMIC PRESS LTD ELSEVIER SCIENCE LTD, 24-28 OVAL RD, LONDON NW1 7DX, ENGLAND. Language: English.

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Primordial germ cells (PGCs) are undifferentiated pluripotent stem cells, whose proliferation is influenced by many internal and external factors. In the present study, a PGC-somatic cell co-culture model was established to evaluate effects of the flavonoids daidzein (DAI) and quercetin (QUE) on proliferation of PGCs from embryonic chickens. PGCs were isolated from the germinal ridge of 3.5-4 day embryos and cultured in 5% fetal calf **serum** (FCS)-supplemented Medium 199. PGC subculture was carried out on chicken embryonic fibroblast feeder (CEF) or follicular granulosa cell feeder (GCF) layers. The subcultured PGCs were challenged with flavonoids alone or in combination with a reactive oxygen substance (ROS)-producing system on CEF for 48 h. The results showed a better supporting effect of CEF than GCF. Flavonoids (1 mu g/ ml) significantly promoted PGC proliferation, which could be markedly inhibited by ROS. The oxidative damage by ROS was further manifest by decreased superoxide dismutase activity and glutathione levels. In addition, activation of protein kinase A (PKA) by forskolin significantly stimulated PGC proliferation, but PKA inhibitor H89 inhibited the proliferating effects induced by DAI and QUE. These results indicated that cultured PGCs respond to exogenous agents on proliferation and that antioxidant flavonoids could restore the intracellular antioxidant system and promote PGC proliferation via their antioxidant action involving the PKA signaling pathway. (c) 2006 International Federation for Cell Biology. Published by Elsevier Ltd.

L21 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

2004:20982 Document No. 140:90312 A method for the detection of

apoptosis via determination of nucleolin and/or PARP-1 in the sample. **Bates, Paula J.; Mi, Yingchang** (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the detection of **apoptosis** by measuring apoptotic bodies shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of nucleolin and PARP-1 in the sample. The detection of either (or both) compds. comprises the detection of a nucleolin (PARP-1)-binding mol.-nucleolin (PARP-1) complex. The binding mols. are anti-nucleolin (anti-PARP-1) antibodies and for nucleolin also guanosine-rich oligonucleotides. The sample can be blood, **serum**, plasma, tissue, tissue culture medium, or sputum. The method can be used to determine excessive **apoptosis** via preparing a blood sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

L21 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 1

2004456047. PubMed ID: 15364206. Effects of follicle-stimulating hormone and androgen on proliferation of cultured testicular germ cells of embryonic chickens. **Mi Yuling**; Zhang Caiqiao; Xie Meina; Zeng Weidong. (Department of Veterinary Medicine, College of Animal Sciences, Zhejiang University, Hangzhou 310029, China.) General and comparative endocrinology, (2004 Sep 15) Vol. 138, No. 3, pp. 237-46. Journal code: 0370735. ISSN: 0016-6480. Pub. country: United States. Language: English.

AB A germ-Sertoli cell coculture model was established to study effects of follicle-stimulating hormone (FSH) and testosterone (T) on testicular germ cell proliferation of the embryonic chickens. Germ and somatic cells were dispersed from 18-day-old embryonic testes and cultured in 96-well plates. Germ cells were characterized by expression of stem cell factor receptor c-kit. Germ cell proliferation was assessed by an increase in cell number and expression of proliferating cell nuclear antigen (PCNA). Results showed that the germ and Sertoli cells kept alive in **serum**-free McCoy's 5A medium supplemented with insulin, transferrin, and selenite (ITS medium). Germ cells adhered to the free surface of Sertoli cells that spread the filopodia and formed a monolayer in ITS medium. In the **serum**-containing medium, Sertoli cells displayed an increment with a flat squamous form and only a few very large germ cell masses were found in the free surface of Sertoli cells. Many germ cells showed **apoptosis** in the McCoy's 5A medium without ITS or **serum.** Only germ cells showed positive staining for c-kit in the coculture. Ovine FSH (0.25-1.0 IU/ml) significantly increased the number of germ cells, and PCNA-labeling index ($P < 0.05$). FSH also induced stronger c-kit expression compared with the control. In the FSH-treated groups, germ cells were manifested distinct knob-like form. Similar stimulating effect was found in the germ cell number by T treatments (10(-7)-10(-6)M). Furthermore, FSH (0.5 IU/ml) combined with T significantly promoted higher testicular germ cell proliferation ($P < 0.05$) compared with either FSH or T alone, which indicated that interaction of FSH and T might be additive. The above results showed that the **serum**-free germ-Sertoli cell coculture model allowed evaluating hormonal regulation of testicular germ cell proliferation. FSH and T promoted testicular germ cell proliferation probably through indirect effects on Sertoli cells.

=> s l19 and plasma
L22 6 L19 AND PLASMA

=> dup remove l22
PROCESSING COMPLETED FOR L22
L23 2 DUP REMOVE L22 (4 DUPLICATES REMOVED)

=> d l23 1-2 cbib abs

L23 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
2004:20982 Document No. 140:90312 A method for the detection of **apoptosis** via determination of nucleolin and/or PARP-1 in the sample. **Bates, Paula J.; Mi, Yingchang** (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the detection of **apoptosis** by measuring apoptotic bodies shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of nucleolin and PARP-1 in the sample. The detection of either (or both) compds. comprises the detection of a nucleolin (PARP-1)-binding mol.-nucleolin (PARP-1) complex. The binding mols. are anti-nucleolin (anti-PARP-1) antibodies and for nucleolin also guanosine-rich oligonucleotides. The sample can be blood, serum, **plasma**, tissue, tissue culture medium, or sputum. The method can be used to determine excessive **apoptosis** via preparing a blood sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

L23 ANSWER 2 OF 2 MEDLINE on STN DUPLICATE 1
2003099862. PubMed ID: 12506112. **Apoptosis** in leukemia cells is accompanied by alterations in the levels and localization of nucleolin. **Mi Yingchang**; Thomas Shelia D; Xu Xiaohua; Casson Lavona K; Miller Donald M; **Bates Paula J.** (Molecular Targets Group, James Graham Brown Cancer Center, Department of Medicine, University of Louisville, Kentucky 40202, USA.) The Journal of biological chemistry, (2003 Mar 7) Vol. 278, No. 10, pp. 8572-9. Electronic Publication: 2002-12-27. Journal code: 2985121R. ISSN: 0021-9258. Pub. country: United States. Language: English.

AB Molecular defects in apoptotic pathways are thought to often contribute to the abnormal expansion of malignant cells and their resistance to chemotherapy. Therefore, a comprehensive knowledge of the mechanisms controlling induction of **apoptosis** and subsequent cellular disintegration could result in improved methods for prognosis and treatment of cancer. In this study, we have examined **apoptosis** -induced alterations in two proteins, nucleolin and poly(ADP-ribose) polymerase-1 (PARP-1), in U937 leukemia cells. Nucleolin is expressed at high levels in malignant cells, and it is a multifunctional and mobile protein that can shuttle among the nucleolus, nucleoplasm, cytoplasm, and **plasma** membrane. Here, we report our findings that UV irradiation or camptothecin treatment of U937 cells induced **apoptosis** and caused a significant change in the levels and localization of nucleolin within the nucleus. Additionally, nucleolin levels were dramatically decreased in extracts containing the cytoplasm and **plasma**

membrane. These alterations could be abrogated by pre-incubation with an inhibitor of PARP-1 (3-aminobenzamide), and our data support a potential role for nucleolin in removing cleaved PARP-1 from dying cells. Furthermore, both nucleolin and cleaved PARP-1 were detected in the culture medium of cells undergoing **apoptosis**, associated with particles of a size consistent with apoptotic bodies. These results indicate that nucleolin plays an important role in **apoptosis**, and could be a useful marker for assessing **apoptosis** or detecting apoptotic bodies. In addition, the data provide a possible explanation for the appearance of nucleolin and PARP-1 autoantibodies in some autoimmune diseases.

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	117.45	117.66

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-7.80	-7.80

STN INTERNATIONAL LOGOFF AT 12:57:08 ON 22 JAN 2007

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSSPTA1644PNH

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	MAR 15	WPIDS/WPIX enhanced with new FRAGHITSTR display format
NEWS	3	MAR 16	CASREACT coverage extended
NEWS	4	MAR 20	MARPAT now updated daily
NEWS	5	MAR 22	LWPI reloaded
NEWS	6	MAR 30	RDISCLOSURE reloaded with enhancements
NEWS	7	APR 02	JICST-EPLUS removed from database clusters and STN
NEWS	8	APR 30	GENBANK reloaded and enhanced with Genome Project ID field
NEWS	9	APR 30	CHEMCATS enhanced with 1.2 million new records
NEWS	10	APR 30	CA/CAplus enhanced with 1870-1889 U.S. patent records
NEWS	11	APR 30	INPADOC replaced by INPADOCDB on STN
NEWS	12	MAY 01	New CAS web site launched
NEWS	13	MAY 08	CA/CAplus Indian patent publication number format defined

```
NEWS 14  MAY 14  RDISCLOSURE on STN Easy enhanced with new search and display
                 fields
NEWS 15  MAY 21  BIOSIS reloaded and enhanced with archival data
NEWS 16  MAY 21  TOXCENTER enhanced with BIOSIS reload
NEWS 17  MAY 21  CA/CAplus enhanced with additional kind codes for German
                 patents
NEWS 18  MAY 22  CA/CAplus enhanced with IPC reclassification in Japanese
                 patents
NEWS 19  JUN 27  CA/CAplus enhanced with pre-1967 CAS Registry Numbers
NEWS 20  JUN 29  STN Viewer now available
NEWS 21  JUN 29  STN Express, Version 8.2, now available
NEWS 22  JUL 02  LEMBASE coverage updated
NEWS 23  JUL 02  LMEDLINE coverage updated
NEWS 24  JUL 02  SCISEARCH enhanced with complete author names
NEWS 25  JUL 02  CHEMCATS accession numbers revised
NEWS 26  JUL 02  CA/CAplus enhanced with utility model patents from China
NEWS 27  JUL 16  CAplus enhanced with French and German abstracts
NEWS 28  JUL 18  CA/CAplus patent coverage enhanced

NEWS EXPRESS  29 JUNE 2007:  CURRENT WINDOWS VERSION IS V8.2,
              CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
              AND CURRENT DISCOVER FILE IS DATED 05 JULY 2007.

NEWS HOURS    STN Operating Hours Plus Help Desk Availability
NEWS LOGIN    Welcome Banner and News Items
NEWS IPC8     For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN Customer
  agreement.  Please note that this agreement limits use to scientific
  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 17:22:06 ON 24 JUL 2007

=> file medline embase biosis scisearc caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'MEDLINE' ENTERED AT 17:22:24 ON 24 JUL 2007

FILE 'EMBASE' ENTERED AT 17:22:24 ON 24 JUL 2007
Copyright (c) 2007 Elsevier B.V. All rights reserved.

FILE 'BIOSIS' ENTERED AT 17:22:24 ON 24 JUL 2007
Copyright (c) 2007 The Thomson Corporation

FILE 'SCISEARCH' ENTERED AT 17:22:24 ON 24 JUL 2007
Copyright (c) 2007 The Thomson Corporation

FILE 'CAPLUS' ENTERED AT 17:22:24 ON 24 JUL 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

=> s detecting
L1      389469 DETECTING

=> s l1 and apoptosis
```

L2 3036 L1 AND APOPTOSIS

=> s l2 and blood
L3 510 L2 AND BLOOD

=> s l3 and nucleolin
L4 5 L3 AND NUCLEOLIN

=> dup remove l4
PROCESSING COMPLETED FOR L4
L5 5 DUP REMOVE L4 (0 DUPLICATES REMOVED)

=> d l5 1-5 cbib abs

L5 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
2005:1313957 Document No. 144:45480 Imaging and therapeutic agents targeting proteins expressed on endothelial cell surface. Schnitzer, Jan E.; Oh, Phillip (Sidney Kimmel Cancer Center, USA). PCT Int. Appl. WO 2005117999 A2 20051215, 65 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2005-US19538 20050602. PRIORITY: US 2004-576192P 20040602.

AB Methods of delivering an agent in a tissue-specific manner, by targeting proteins expressed on endothelial cell surface, are described. The methods can be used for **detecting**, imaging and/or treating neoplasia, angiogenesis or neovasculature, as well as for diagnostics and methods of assessing treatment efficacy.

L5 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
2005:1311323 Document No. 144:47000 Lung endothelial cell associated marker proteins as targets for tissue-specific imaging and therapeutical agents in diagnosis and therapy. Schnitzer, Jan E.; Oh, Phillip (Sidney Kimmel Cancer Center, USA). PCT Int. Appl. WO 2005117977 A2 20051215, 84 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2005-US19398 20050602. PRIORITY: US 2004-576114P 20040602.

AB Methods of delivering an agent in a tissue-specific manner, particularly lung tissue, by targeting a protein expressed on the endothelial cell surface, are described. The methods can be used for **detecting**, imaging and/or treating pathologies, as well as for diagnostics. Specifically claimed are a series of lung endothelial cell associated marker proteins for diagnostic and therapeutical uses, in particular TIE-2, APN, TEM4, TEM6, ICAM-1, **nucleolin**, P2Z receptor, Trk-A, FLJ10849, HSPA12B, APP, and OX-45.

L5 ANSWER 3 OF 5 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2003:201624 Document No.: PREV200300201624. **Apoptosis** in leukemia cells is accompanied by alterations in the levels and localization of **nucleolin.** Mi, Yingchang; Thomas, Shelia D.; Xu, Xiaohua; Casson, Lavona K.; Miller, Donald M.; Bates, Paula J. [Reprint Author]. 570 S. Preston St., 204B Baxter Bldg., Louisville, KY, 40202, USA. paula.bates@louisville.edu. Journal of Biological Chemistry, (March 7

2003) Vol. 278, No. 10, pp. 8572-8579. print.
CODEN: JBCHA3. ISSN: 0021-9258. Language: English.

AB Molecular defects in apoptotic pathways are thought to often contribute to the abnormal expansion of malignant cells and their resistance to chemotherapy. Therefore, a comprehensive knowledge of the mechanisms controlling induction of **apoptosis** and subsequent cellular disintegration could result in improved methods for prognosis and treatment of cancer. In this study, we have examined **apoptosis** -induced alterations in two proteins, **nucleolin** and poly(ADP-ribose) polymerase-1 (PARP-1), in U937 leukemia cells. **Nucleolin** is expressed at high levels in malignant cells, and it is a multifunctional and mobile protein that can shuttle among the nucleolus, nucleoplasm, cytoplasm, and plasma membrane. Here, we report our findings that UV irradiation or camptothecin treatment of U937 cells induced **apoptosis** and caused a significant change in the levels and localization of **nucleolin** within the nucleus. Additionally, **nucleolin** levels were dramatically decreased in extracts containing the cytoplasm and plasma membrane. These alterations could be abrogated by pre-incubation with an inhibitor of PARP-1 (3-aminobenzamide), and our data support a potential role for **nucleolin** in removing cleaved PARP-1 from dying cells. Furthermore, both **nucleolin** and cleaved PARP-1 were detected in the culture medium of cells undergoing **apoptosis**, associated with particles of a size consistent with apoptotic bodies. These results indicate that **nucleolin** plays an important role in **apoptosis**, and could be a useful marker for assessing **apoptosis** or **detecting** apoptotic bodies. In addition, the data provide a possible explanation for the appearance of **nucleolin** and PARP-1 autoantibodies in some autoimmune diseases.

L5 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

2002:937303 Document No. 138:20443 Endocrine disruptor screening using DNA chips of endocrine disruptor-responsive genes. Kondo, Akihiro; Takeda, Takeshi; Mizutani, Shigetoshi; Tsujimoto, Yoshimasa; Takashima, Ryokichi; Enoki, Yuki; Kato, Ikunoshin (Takara Bio Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2002355079 A 20021210, 386 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-69354 20020313. PRIORITY: JP 2001-73183 20010314; JP 2001-74993 20010315; JP 2001-102519 20010330.

AB A method and kit for **detecting** endocrine-disrupting chems. using DNA microarrays are claimed. The method comprises preparing a nucleic acid sample containing mRNAs or cDNAs originating in cells, tissues, or organisms which have been brought into contact with a sample containing the endocrine disruptor. The nucleic acid sample is hybridized with DNA microarrays having genes affected by the endocrine disruptor or DNA fragments originating in these genes have been fixed. The results obtained are then compared with the results obtained with the control sample to select the gene affected by the endocrine disruptor. Genes whose expression is altered by tri-Bu tin, 4-octaphenol, 4-nonylphenol, di-N-Bu phthalate, dichlorohexyl phthalate, octachlorostyrene, benzophenone, diethylhexyl phthalate, diethylstilbestrol (DES), and 17-β estradiol (E2), were found in mice by DNA chip anal.

L5 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

2001:904598 Document No. 136:2535 Compositions, kits, and methods for identification and modulation of type I diabetes. Byrne, Michael C.; Hill, Andrew A.; Wilson, S. Brian (Genetics Institute, Inc., USA; General Hospital Corporation). PCT Int. Appl. WO 2001094636 A2 20011213, 123 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO

2001-US18418 20010605. PRIORITY: US 2000-209703P 20000605.
AB The invention relates to compns., kits, and methods for **detecting**, characterizing, preventing, and treating type I diabetes. A variety of markers are provided, wherein changes in the levels of expression of one or more of the markers is correlated with the presence of type I diabetes.

```
=> s nucleolin
L6        3188 NUCLEOLIN

=> s l6 and apoptosis
L7         316 L6 AND APOPTOSIS

=> s l7 and marker
L8          34 L7 AND MARKER

=> s l8 and serum sample
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
L9           4 L8 AND SERUM

=> dup remove l9
PROCESSING COMPLETED FOR L9
L10          4 DUP REMOVE L9 (0 DUPLICATES REMOVED)

=> d l10 1-4 cbib abs

L10  ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2007 ACS on STN
2006:1173099  Document No. 145:487169  Identification of proteins showing
     changes in abundance or phosphorylation using stable isotope labeling in
     cancer diagnosis.  Pope, Robert M.; Liang, Xiquan; Hajivandi, Mahbod;
     Leite, John (Invitrogen Corporation, USA).  PCT Int. Appl. WO 2006119435
     A2 20061109, 122pp.  DESIGNATED STATES: W:  AE, AG, AL, AM, AT, AU, AZ,
     BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ,
     EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
     KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK,
     MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
     SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
     YU, ZA; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR,
     GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.
     (English).  CODEN: PIXXD2.  APPLICATION: WO 2006-US17162 20060504.
     PRIORITY: US 2005-678119P 20050504; US 2005-678392P 20050506; US
     2005-687355P 20050603.
AB   Methods for identifying proteins that are differentially expressed in
     disease state and normal cells using stable isotope labeling are described
     for diagnostic use.  Stable isotope labeling of cells in culture allows
     for the identification of a multiplicity of proteins whose differential
     abundance in normal and disease state cells can be indicative of the
     disease state.  Biomarkers are identified for breast cancer, in which the
     biomarkers are proteins having a two-fold or greater difference in
     abundance between breast cancer and normal cells.  Identified biomarkers
     can be used detection methods that can provide diagnosis, typing, staging,
     or prognosis of cancer, such as breast cancer, or can be used to predict
     the response of cancer, such as breast cancer, to one or more anti-cancer
     agents.

L10  ANSWER 2 OF 4  CAPLUS  COPYRIGHT 2007 ACS on STN
2006:1157631  Document No. 145:483673  Novel methods and devices for
     evaluating poisons.  Ching, Edwin P.; Johnson, Dale E.; Sudarsanam, Sucha
     (Emiliem, USA).  PCT Int. Appl. WO 2006116622 A2 20061102, 132pp.
     DESIGNATED STATES: W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY,
     BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,
```

GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2006-US16067 20060426. PRIORITY: US 2005-675741P 20050427; US 2006-778133P 20060301.

AB Methods and devices useful for evaluating poisons or other chemical entities, and for using such methods to forecast unfavorable drug effects. The present invention provides lists of biomarkers for anal., either directly or indirectly, which affect the toxicity pathways. These may be evaluated at many levels, including genetic, genotyping, evaluation of combination pairing of diploid alleles or haplotypes, RNA expression, protein expression, functional activity, posttranslational anal. or evaluation, etc. Thus, the biomarkers refer to the corresponding genetic information, RNA, protein, or other structural embodiments thereof. And the means to use these biomarkers, e.g., to evaluate status of toxicity pathways, to evaluate individual risk or susceptibility to various toxic pathways from exposure or therapeutic intervention, to generate test systems for drug development, are all provided by identifying critical and significant contributors to the pathway progression. The present invention is directed to accelerating the speed of development and reducing the resource investment necessary to determine these features for directing use of such substances or treatments to appropriate biol. contexts.

L10 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

2005:1311323 Document No. 144:47000 Lung endothelial cell associated **marker** proteins as targets for tissue-specific imaging and therapeutical agents in diagnosis and therapy. Schnitzer, Jan E.; Oh, Phillip (Sidney Kimmel Cancer Center, USA). PCT Int. Appl. WO 2005117977 A2 20051215, 84 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2005-US19398 20050602. PRIORITY: US 2004-576114P 20040602.

AB Methods of delivering an agent in a tissue-specific manner, particularly lung tissue, by targeting a protein expressed on the endothelial cell surface, are described. The methods can be used for detecting, imaging and/or treating pathologies, as well as for diagnostics. Specifically claimed are a series of lung endothelial cell associated **marker** proteins for diagnostic and therapeutical uses, in particular TIE-2, APN, TEM4, TEM6, ICAM-1, **nucleolin**, P2Z receptor, Trk-A, FLJ10849, HSPA12B, APP, and OX-45.

L10 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

2002:937303 Document No. 138:20443 Endocrine disruptor screening using DNA chips of endocrine disruptor-responsive genes. Kondo, Akihiro; Takeda, Takeshi; Mizutani, Shigetoshi; Tsujimoto, Yoshimasa; Takashima, Ryokichi; Enoki, Yuki; Kato, Ikunoshin (Takara Bio Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2002355079 A 20021210, 386 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-69354 20020313. PRIORITY: JP 2001-73183 20010314; JP 2001-74993 20010315; JP 2001-102519 20010330.

AB A method and kit for detecting endocrine-disrupting chems. using DNA microarrays are claimed. The method comprises preparing a nucleic acid sample containing mRNAs or cDNAs originating in cells, tissues, or organisms which have been brought into contact with a sample containing the endocrine disruptor. The nucleic acid sample is hybridized with DNA microarrays having genes affected by the endocrine disruptor or DNA fragments originating in these genes have been fixed. The results obtained are then

compared with the results obtained with the control sample to select the gene affected by the endocrine disruptor. Genes whose expression is altered by tri-Bu tin, 4-octaphenol, 4-nonylphenol, di-N-Bu phthalate, dichlorohexyl phthalate, octachlorostyrene, benzophenone, diethylhexyl phthalate, diethylstilbestrol (DES), and 17-β estradiol (E2), were found in mice by DNA chip anal.

=> s serum marker
L11 13018 SERUM MARKER

=> s l11 and apoptosis
L12 129 L11 AND APOPTOSIS

=> s l12 and nucleolin
L13 0 L12 AND NUCLEOLIN

=> s cancer marker
L14 3633 CANCER MARKER

=> s l14 and nucleolin
L15 2 L14 AND NUCLEOLIN

=> dup remove l15
PROCESSING COMPLETED FOR L15
L16 2 DUP REMOVE L15 (0 DUPLICATES REMOVED)

=> d l16 1-2 cbib abs

L16 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
2006:1225943 Document No. 146:5717 Gene expression signatures associated with oncogenic pathway deregulation and their use in the selection of antitumor therapy. Nevins, Joseph R.; Bild, Andrea H.; Yao, Guang; Chang, Jeffrey T.; Wang, Quanli; Potti, Anil; Harpole, David; Lancaster, Johnathan M.; Berchuck, Andrew; Olson, John A., Jr.; Marks, Jeffrey R.; West, Mike; Dressman, Holly (Duke University, USA). PCT Int. Appl. WO 2006124836 A1 20061123, 109pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2006-US18827 20060515. PRIORITY: US 2005-680490P 20050513.
AB The disclosure relates to identifying deregulated signal transduction pathways and their use in the diagnosis of cancer. In certain embodiments, the methods of the disclosure can be used to evaluate therapeutic agents for the treatment of cancer. Candidate genes were identified in human primary mammary epithelial cells by transforming them with a series of oncogenic adenovirus and observing changes in gene expression profiles. These were then validated in mouse models.

L16 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
2005:1355613 Document No. 144:106082 Cancer diagnosis by analysis of phage microarrays carrying genes associated with the humoral response to the disease. Chinnaiyan, Arul; Wang, Xiaoju (The Regents of the University of Michigan, USA). PCT Int. Appl. WO 2005123993 A2 20051229, 130 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF,

BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2005-US20107 20050608. PRIORITY: US 2004-578406P 20040609.

AB A method of cancer diagnosis by identification of epitopes associated with the disease is described. In particular, the present invention provides methods and compns. for phage microarray profiling of cancer (e.g., prostate, lung, or breast cancer). The present invention further provides novel markers useful for the diagnosis, characterization, and treatment of cancers. The method involves preparing a phage display library from the neoplastic tissue of interest. The library is screened with serum from a control patient to remove antigens not specific to the disease. Phage encoding disease-associated antigens are then captured with antiserum specific to the disease. The phage carrying the epitopes are amplified, made into microarrays, and the epitopes characterized immunochem. Use of a T7 phage display system to identify markers of prostate cancer is demonstrated. In a panel of breast cancer patients, the humoral response to the disease was found to show a correlation with survival.

```
=> s detect?
L17    6031946 DETECT?

=> s l17 and apoptotic bodies
L18       2119 L17 AND APOPTOTIC BODIES

=> s l18 and blood sample
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
L19        266 L18 AND BLOOD

=> s l19 and anti-nucleolin
L20          1 L19 AND ANTI-NUCLEOLIN

=> d l20 cbib abs

L20  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
2004:20982   Document No. 140:90312  A method for the detection of
     apoptosis via determination of nucleolin and/or PARP-1 in the sample.
     Bates, Paula J.; Mi, Yingchang (University of Louisville Research
     Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp.
     DESIGNATED STATES: W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ,
     CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,
     GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
     LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO,
     RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN,
     YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ,
     CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC,
     ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.  (English).  CODEN: PIXXD2.
     APPLICATION: WO 2003-US20167 20030626.  PRIORITY: US 2002-392143P
     20020626.
AB   Methods for the detection of apoptosis by measuring
     apoptotic bodies shed by apoptotic cells are provided,
     as are kits to carry out such methods. The method comprises preparing a
     sample from which cells have been removed and determining at least one of
     nucleolin and PARP-1 in the sample. The detection of either (or
     both) compds. comprises the detection of a nucleolin
     (PARP-1)-binding mol.-nucleolin (PARP-1) complex. The binding mols. are
     anti-nucleolin (anti-PARP-1) antibodies and for
     nucleolin also guanosine-rich oligonucleotides. The sample can be
     blood, serum, plasma, tissue, tissue culture medium, or sputum.
     The method can be used to determine excessive apoptosis via preparing a
```

blood sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

=> s nucleolin
L21 3188 NUCLEOLIN

=> s l21 and excessive apoptosis
L22 1 L21 AND EXCESSIVE APOPTOSIS

=> d l22 cbib abs

L22 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
2004:20982 Document No. 140:90312 A method for the detection of apoptosis via determination of **nucleolin** and/or PARP-1 in the sample.
Bates, Paula J.; Mi, Yingchang (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp.
DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2.
APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.
AB Methods for the detection of apoptosis by measuring apoptotic bodies shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of **nucleolin** and PARP-1 in the sample. The detection of either (or both) compds. comprises the detection of a **nucleolin** (PARP-1)-binding mol.-**nucleolin** (PARP-1) complex. The binding mols. are anti-**nucleolin** (anti-PARP-1) antibodies and for **nucleolin** also guanosine-rich oligonucleotides. The sample can be blood, serum, plasma, tissue, tissue culture medium, or sputum. The method can be used to determine **excessive apoptosis** via preparing a blood sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

=> s (bates p?/au or mi y?/au)
L23 3291 (BATES P?/AU OR MI Y?/AU)

=> s l23 and anti-nucleolin
L24 1 L23 AND ANTI-NUCLEOLIN

=> d l24 cbib abs

L24 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
2004:20982 Document No. 140:90312 A method for the detection of apoptosis via determination of nucleolin and/or PARP-1 in the sample. **Bates, Paula J.; Mi, Yingchang** (University of Louisville Research Foundation, Inc., USA). PCT Int. Appl. WO 2004003554 A1 20040108, 66 pp.
DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC,

oligonucleotides. The sample can be **blood**, serum, plasma, tissue, tissue culture medium, or sputum. The method can be used to determine excessive **apoptosis** via preparing a **blood** sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

L29 ANSWER 2 OF 4 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2003:201624 Document No.: PREV200300201624. **Apoptosis** in leukemia cells is accompanied by alterations in the levels and localization of **nucleolin. Mi, Yingchang**; Thomas, Shelia D.; Xu, Xiaohua; Casson, Lavona K.; Miller, Donald M.; **Bates, Paula J.** [Reprint Author]. 570 S. Preston St., 204B Baxter Bldg., Louisville, KY, 40202, USA. paula.bates@louisville.edu. Journal of Biological Chemistry, (March 7 2003) Vol. 278, No. 10, pp. 8572-8579. print.
CODEN: JBCHA3. ISSN: 0021-9258. Language: English.

AB Molecular defects in apoptotic pathways are thought to often contribute to the abnormal expansion of malignant cells and their resistance to chemotherapy. Therefore, a comprehensive knowledge of the mechanisms controlling induction of **apoptosis** and subsequent cellular disintegration could result in improved methods for prognosis and treatment of cancer. In this study, we have examined **apoptosis** -induced alterations in two proteins, **nucleolin** and poly(ADP-ribose) polymerase-1 (PARP-1), in U937 leukemia cells. **Nucleolin** is expressed at high levels in malignant cells, and it is a multifunctional and mobile protein that can shuttle among the nucleolus, nucleoplasm, cytoplasm, and plasma membrane. Here, we report our findings that UV irradiation or camptothecin treatment of U937 cells induced **apoptosis** and caused a significant change in the levels and localization of **nucleolin** within the nucleus. Additionally, **nucleolin** levels were dramatically decreased in extracts containing the cytoplasm and plasma membrane. These alterations could be abrogated by pre-incubation with an inhibitor of PARP-1 (3-aminobenzamide), and our data support a potential role for **nucleolin** in removing cleaved PARP-1 from dying cells. Furthermore, both **nucleolin** and cleaved PARP-1 were detected in the culture medium of cells undergoing **apoptosis**, associated with particles of a size consistent with apoptotic bodies. These results indicate that **nucleolin** plays an important role in **apoptosis**, and could be a useful marker for assessing **apoptosis** or detecting apoptotic bodies. In addition, the data provide a possible explanation for the appearance of **nucleolin** and PARP-1 autoantibodies in some autoimmune diseases.

L29 ANSWER 3 OF 4 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2002:151933 Document No.: PREV200200151933. Regulation of **nucleolin** in U937 cells treated with UV-light and cytotoxic drugs. **Mi, Yingchang** [Reprint author]; Rates, Paula J. [Reprint author]; Thomas, Shelia D. [Reprint author]; Xu, Xiaohua [Reprint author]; Casson, Lavona [Reprint author]; Miller, Donald M. [Reprint author]. James Graham Brown Cancer Center, University of Louisville, Louisville, KY, USA. Blood, (November 16, 2001) Vol. 98, No. 11 Part 2, pp. 139b. print.
Meeting Info.: 43rd Annual Meeting of the American Society of Hematology, Part 2. Orlando, Florida, USA. December 07-11, 2001. American Society of Hematology.
CODEN: BLOOAW. ISSN: 0006-4971. Language: English.

AB Levels of the nucleolar protein, **nucleolin**, are positively correlated with cell proliferation rate, and therefore elevated in cancer cells compared to normal cells. **Nucleolin** is a multifunctional protein that has been implicated in many processes, including ribosome biogenesis, DNA replication, cell cycle progression and **apoptosis** . It has been identified as an **apoptosis**-associated protein in human Burkitt lymphoma cell line, and is cleaved by caspase-3. Poly(ADP-ribose) polymerase (PARP) is an enzyme involved in DNA repair and one of intracellular "death substrates", can also be cleaved by caspase-3.

ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US20167 20030626. PRIORITY: US 2002-392143P 20020626.

AB Methods for the detection of apoptosis by measuring apoptotic bodies shed by apoptotic cells are provided, as are kits to carry out such methods. The method comprises preparing a sample from which cells have been removed and determining at least one of nucleolin and PARP-1 in the sample. The detection of either (or both) compds. comprises the detection of a nucleolin (PARP-1)-binding mol.-nucleolin (PARP-1) complex. The binding mols. are **anti-nucleolin** (anti-PARP-1) antibodies and for nucleolin also guanosine-rich oligonucleotides. The sample can be blood, serum, plasma, tissue, tissue culture medium, or sputum. The method can be used to determine excessive apoptosis via preparing a blood sample from a subject suspected of having a disease selected from the group consisting of AIDS, neurodegenerative disease, ischemic injury, autoimmune disease, tumor, cancer, viral infection, acute inflammation, and sepsis.

```
=> s l23 and apoptosis
L25         45 L23 AND APOPTOSIS

=> s l25 and blood sample
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
SAMPLE IS IGNORED AS A SCOPE FOR THIS SEARCH
L26          5 L25 AND BLOOD

=> s l25 and blood
L27          5 L25 AND BLOOD

=> s l27 and nucleolin
L28          4 L27 AND NUCLEOLIN

=> dup remove l28
PROCESSING COMPLETED FOR L28
L29           4 DUP REMOVE L28 (0 DUPLICATES REMOVED)

=> d l29 1-4 cbib abs

L29  ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2007 ACS on STN
2004:20982  Document No. 140:90312  A method for the detection of
     apoptosis via determination of nucleolin and/or PARP-1
     in the sample.  Bates, Paula J.; Mi, Yingchang
     (University of Louisville Research Foundation, Inc., USA).  PCT Int. Appl.
     WO 2004003554 A1 20040108, 66 pp.  DESIGNATED STATES: W:  AE, AG, AL, AM,
     AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK,
     DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
     KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
     MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM,
     TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ,
     MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES,
     FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG,
     TR.  (English).  CODEN: PIXXD2.  APPLICATION: WO 2003-US20167 20030626.
     PRIORITY: US 2002-392143P 20020626.
AB   Methods for the detection of apoptosis by measuring apoptotic
     bodies shed by apoptotic cells are provided, as are kits to carry out such
     methods.  The method comprises preparing a sample from which cells have been
     removed and determining at least one of nucleolin and PARP-1 in the
     sample.  The detection of either (or both) compds. comprises the detection
     of a nucleolin (PARP-1)-binding mol.-nucleolin
     (PARP-1) complex.  The binding mols. are anti-nucleolin
     (anti-PARP-1) antibodies and for nucleolin also guanosine-rich
```

In this study, U937 (monocytic leukemia) cells were irradiated with UV-light or treated with 20 mM cytosine arabinoside (Ara-C), 10 mM camptothecin (CPT) for different times (2, 4, 8, 24 h) in the absence or presence of 3-aminobenzamide (3-ABA), an inhibitor of PARP. Alterations of **nucleolin** in both cytoplasm and nucleus, and PARP in nucleus were investigated by western blot analysis. Cell cycle parameters were determined using flow cytometry with PI staining. **Nucleolin** in the cytoplasm decreased 4h after UV-irradiation and did not come back until 72h. **Nucleolin** in the nucleus decreased 2h after UV-irradiation, and recovered 48h later. The active form of PARP (118-KD protein) began cleavage to an inactive form (89 Kda) 2h after UV-irradiation, became undetectable at 4h, and came back at 48h. 3-ABA pre-incubation could inhibit PARP cleavage by more than 50% at 4h, 8h, 24h. At the same time, 3-ABA also reduced the disappearance of **nucleolin** (both in cytoplasm and nucleus). We also compared cell cycle after UV-irradiation between 3-ABA pre-incubated and no 3-ABA treatment groups. Percentage of sub-G1 phase cells was the highest at 4h, and decreased gradually. The 3-ABA pre-incubated group had a higher percentage of S phase cells and a lower ratio of sub-G1 phase cells. Furthermore, we treated U937 cells using Ara-C and CPT, and found that **nucleolin** both in cytoplasm and nucleus was down-regulated over time and decreased markedly by 8h. PARP was cleaved to its inactive form at 4h. Although pre-incubation with 3-ABA before drug treatment did not protect PARP cleavage, it protected **nucleolin** from decreasing (although to a lesser extent than in UV-irradiated cells). Using immunoprecipitation/western blot we determined that **nucleolin** and PARP could form a complex. Conclusions: **Nucleolin** plays an important role in leukemia cell **apoptosis**/death induced by anti-neoplastic agents and UV-irradiation. Alteration of **nucleolin** in nucleus precludes that in the cytoplasm. **Nucleolin** can form a complex with PARP, and acts as one of the substrates of PARP. **Nucleolin** is therefore a component of the caspase-dependent cell **apoptosis** mechanism.

L29 ANSWER 4 OF 4 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

2001:301451 Document No.: PREV200100301451. Guanosine-rich oligonucleotides inhibit proliferation of leukemia cells. Castillos, Francisco A., III [Reprint author]; **Bates, Paula J.** [Reprint author]; Thomas, Shelia D. [Reprint author]; Xu, Xiaohua [Reprint author]; Trent, John O. [Reprint author]; Miller, Donald M. [Reprint author]. Hematology/Medical Oncology James Graham Brown Cancer Center, University of Louisville, Louisville, KY, USA. Blood, (November 16, 2000) Vol. 96, No. 11 Part 1, pp. 308a. print.
Meeting Info.: 42nd Annual Meeting of the American Society of Hematology. San Francisco, California, USA. December 01-05, 2000. American Society of Hematology.
CODEN: BLOOAW. ISSN: 0006-4971. Language: English.

AB We have tested the ability of a G-quartet forming Guanosine-rich oligonucleotide GRO29A to inhibit growth of several leukemia cell-lines in vitro. GRO29A is a novel oligonucleotide which has its effects by non-antisense mechanisms. MTT assays were performed to determine dose-response to GRO29A in U937, K562, HL-60, MEG01, and RS4:11 leukemia cell-lines and the mouse hematopoietic progenitor stem-cell line ATCC 2037. We demonstrated IC50s ranging from 2.0 to 2.5 muM for leukemia cell-lines with differential survival of a population of mouse hematopoietic progenitor cells in the 10 muM range. Time course assays demonstrate a sustained inhibition of growth at 96 hrs after a 48 hr washout period of GRO29A-treated U937 cells compared to U937 PBS-treated control cells. We further characterized the effect of GRO29A on leukemia cell-lines using cell cycle analysis by flow cytometry, which demonstrated apprx60% increase in S-phase cells with a concomitant decrease in G0/G1, and total loss of G2/M phase cells treated with (GRO29A) at gtoreq 1 muM. There was also a subG0/G1 peak in U937 cells treated with (GRO29A) at gtoreq 1 muM. **Apoptosis** was confirmed by TUNEL assay in GRO29A-treated U937 cells in time course assays with a prolonged 14%

increase over PBS-treated control cells occurring 28 hours after initial GRO29A exposure. Colony formation is inhibited 100% at gtoreq 1 X 10.6 M log (GRO29A) consistent with the dose-response results. The inhibition of growth induced by GRO29A correlates with its binding to specific protein bands at the same molecular weight in all cell-lines tested by southwestern analysis. One of these bands corresponds to **nucleolin** antibody staining of the same blot by western analysis. Using electrophoretic mobility shift assays we detected a nuclear protein that binds specifically to GRO29A and this same nuclear protein is bound by the telomere sequence. Levels of protein binding from nuclear extracts of these leukemia cell-lines correlates with inhibition of cell growth by GRO29A. We are investigating the relationship between this inhibition of proliferation by GRO29A in these leukemia cell-lines and the ability of GRO29A to competitively inhibit **nucleolin**/human DNA helicase IV using helicase assays. These results provide a new therapeutic target for the treatment of leukemias.

```
=> s cancer cell
L30     401863 CANCER CELL

=> s l30 and circulating
L31       4610 L30 AND CIRCULATING

=> s l31 and nucleolin
L32          0 L31 AND NUCLEOLIN

=> s l30 and blood
L33      35888 L30 AND BLOOD

=> s l33 and nucleolin
L34         13 L33 AND NUCLEOLIN

=> dup remove l34
PROCESSING COMPLETED FOR L34
L35          11 DUP REMOVE L34 (2 DUPLICATES REMOVED)

=> d l35 1-11 cbib abs

L35  ANSWER 1 OF 11  CAPLUS  COPYRIGHT 2007 ACS on STN
2006:465574   Document No. 144:460821  Osteotropic peptides for regulating
     osteogenesis and angiogenesis and inhibiting metastatic processes.
     Balian, Garabed (University of Virginia Patent Foundation, USA).  PCT Int.
     Appl. WO 2006052840 A2 20060518, 85 pp.  DESIGNATED STATES: W:  AE, AG,
     AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU,
     CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID,
     IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
     LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,
     PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA,
     UG, US, UZ, VC, VN, YU, ZA; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY,
     DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT,
     SE, SN, TD, TG, TR.  (English).  CODEN: PIXXD2.  APPLICATION: WO
     2005-US40191 20051104.  PRIORITY: US 2004-624957P 20041104; US
     2005-695325P 20050630.
AB   The present invention is directed to the use of bone tropic peptides
     identified through the use of a phage display library.  More particularly,
     the invention is directed to compns. comprising the bone tropic peptides
     and methods for using such compns. to regulate osteogenesis, cell adhesion
     and angiogenesis, and diseases and disorders thereof, and to inhibit
     cancer cell metastasis and growth.

L35  ANSWER 2 OF 11  BIOSIS  COPYRIGHT (c) 2007 The Thomson Corporation  on STN
2007:104400  Document No.: PREV200700105378. Discovery and development of
     anticancer aptamers. Ireson, Christopher R.; Kelland, Lloyd R. [Reprint
     Author]. Univ Coll London, Wolfson Inst Biomed Res, Cruciform Bldg,Gower
```

St, London WC1E 6BT, UK. lkelland@cancertechnology.com. Molecular Cancer Therapeutics, (DEC 2006) Vol. 5, No. 12, pp. 2957-2962.
ISSN: 1535-7163. Language: English.

AB Aptamers, also termed as decoys or "chemical antibodies," represent an emerging class of therapeutics. They are short DNA or RNA oligonucleotides or peptides that assume a specific and stable three-dimensional shape in vivo, thereby providing specific tight binding to protein targets. In some cases and as opposed to antisense oligonucleotides, effects can be mediated against extracellular targets, thereby preventing a need for intracellular transportation. The first aptamer approved for use in man is a RNA-based molecule (Macugen, pegaptanib) that is administered locally (intravitreally) to treat age-related macular degeneration by targeting vascular endothelial growth factor. The most advanced aptamer in the cancer setting is AS 1411, formerly known as AGRO 100, which is being administered systemically in clinical trials. AS1411 is a 26-mer unmodified guanosine-rich oligonucleotide, which induces growth inhibition in vitro, and has shown activity against human tumor xenografts in vivo. The mechanism underlying its antiproliferative effects in **cancer cells** seems to involve initial binding to cell surface **nucleolin** and internalization, leading to an inhibition of DNA replication. In contrast to other unmodified oligonucleotides, AS 1411 is relatively stable in serum-containing medium, probably as a result of the formation of dimers and a quartet structure. In a dose escalation phase I study in patients with advanced solid tumors, doses up to 10 mg/kg/d (using a four or seven continuous infusion regime) have been studied. Promising signs of activity have been reported (multiple cases of stable disease and one near complete response in a patient with renal cancer) in the absence of any significant adverse effects. Further trials are ongoing in renal and non-small cell lung cancers. In preclinical studies, additional aptamers have been described against several cancer targets, such as tenascin-C, the transcription factor signal transducer and activator of transcription 3, and antiapoptotic and Ku proteins.

L35 ANSWER 3 OF 11 MEDLINE on STN DUPLICATE 1

2006518948. PubMed ID: 16937366. An intracrine view of angiogenesis. Re Richard N; Cook Julia L. (Research Division, Ochsner Clinic Foundation, New Orleans, LA 70121, USA.. rre@ochsner.org) . BioEssays : news and reviews in molecular, cellular and developmental biology, (2006 Sep) Vol. 28, No. 9, pp. 943-53. Ref: 99. Journal code: 8510851. ISSN: 0265-9247. Pub. country: United States. Language: English.

AB Angiogenesis, the generation of new **blood** vessels from pre-existing vessels, is an integral component of wound healing, responses to inflammation and other physiologic processes. It is also an essential part of tumor growth; in the absence of new vessel formation, tumors cannot expand beyond a small volume. Although much is known about angiogenesis and its regulation, there is no overall theory that describes or explains this process. It is here suggested that the intracrine hypothesis, which ascribes to certain extracellular signaling peptides (whether hormones, growth factors, DNA-binding proteins or enzymes) a role in both intracellular biology and extracellular signaling, can contribute to a more general understanding of angiogenesis. Intracrine factors participate in angiogenesis in the following ways: (1) they can act within the cells that synthesized them (type I intracrine action), (2) they can be secreted and then taken up by their cell of synthesis to act intracellularly (type II intracrine action), or (3) they can be secreted and internalized by a distant target cell (type III intracrine action). The parallels between the intracrine growth factor mechanisms **cancer cells** employ in stimulating their own growth and the mechanisms operative in endothelial cell proliferation during angiogenesis ("intracrine reciprocity") are discussed. Collectively, these explorations lead to testable hypotheses regarding the regulation of normal and pathological angiogenesis, and point to similarities between tumor-induced angiogenesis and tissue differentiation.

L35 ANSWER 4 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2007:267389 Document No.: PREV200700258746. AS1411, a novel DNA aptamer as a potential treatment of acute myelogenous leukaemia (AML). Shah, Kirti [Reprint Author]; Djeha, Hakim; Richie, Christy; McGeever, Grainne; Green, Colin; Miller, Donald Max. St George Hosp, Med Sch, Antisoma Res Ltd, London, UK. Blood, (NOV 16 2006) Vol. 108, No. 11, Part 1, pp. 564A-565A. Meeting Info.: 48th Annual Meeting of the American-Society-of-Hematology. Orlando, FL, USA. December 09 -12, 2006. Amer Soc Hematol.
CODEN: BLOOAW. ISSN: 0006-4971. Language: English.

AB AS 1411 (formerly AGRO 100) is the first nucleic acid aptamer to enter oncology trials and is currently in a Phase I study in renal and lung patients. AS1411 is a 26mer unmodified phosphodiester-based guanosine rich oligonucleotide which, as a dimer, forms a serum-resistant quartet structure. it is postulated to exert anti-cancer activity by binding to cell surface **nucleolin** resulting in S-phase cell cycle arrest.
We have previously shown that AS 1411 inhibits growth of a wide range of solid tumours, including lung, renal, prostate and colorectal with EC(50)s of 2 to 8 mu M. In this series of studies, we investigated the potential of ASI 411 in the treatment of acute myelogenous leukaemia (AML).
Expression of cell-surface and intracellular expression of **nucleolin** was assessed by indirect immunocytochemical staining.
Four AML cell lines (MV4-1 1, KG 1, HL60 and K562) and two solid turnout cell lines (A549 - lung; DU145 - prostate) were used. Permeabilised or non-permeabilised cells were either stained in situ on chamber glass slides or as cytospin preparations. Three anti-**nucleolin** monoclonal antibodies and the Vector immunoperoxidase system were used. Cells were qualitatively assessed for extent and intensity of staining.
In the KG 1, HL60 and MV4-11 cell lines, intense, homogeneous staining was seen in 100% of non-permeabilised cells, indicating high levels of surface-expressed **nucleolin**; in K562 cell lines, very intense, but heterogeneous surface staining was seen. In the A549 lung and DU145 prostate lines, moderate surface staining for **nucleolin** was seen. In the permeabilised AML and solid tumour cells, all lines showed similar levels of homogeneous, intense intracellular staining, as expected for an ubiquitous intracellular and intranuclear protein. In SRB in vitro cytotoxicity assays, AS 1411 resulted in cell death with an EC,, of 0.6 to 5 mu M; the MV4-11 line was most sensitive; the EC50, for solid turnout cell lines ranged between 2 and 8 PM. Since exposure of cells to AS 1411 results in S-phase cell cycle arrest; we postulated that combination of AS 1411 with S-phase dependent chemotherapeutic agents may result in increased cytotoxicity and synergistic activity An early study of the combination of AS 1411 with cytosine arabinoside (AraC) indicates that there is a synergistic effect between the two drugs; the data also suggest that the synergy may be schedule dependent and requires prior exposure to AS 1411 before treatment with AraC. The distribution of the aptamer in the mouse was examined using tritiated-AS 1411. A total dose of 158 kBq of (3) H-AS 1411 was given by intravenous injection to mice bearing solid human turnout xenografts and samples of tumours and normal tissue taken between I hour and 4 days post injection. Approximately 1.6 to 3. 1 % of the injected dose was measured in the bone and bone marrow 24 hours after dosing. The ratio of the amount of H-3-AS 1411 in the bone marrow to that in the **blood** ranged between 1.3 and 3.7 throughout the 4-day sampling period. In conclusion, we have demonstrated that **nucleolin** appears to be intensely expressed on the surface of AML cell lines. AML cell lines are killed by treatment with AS 1411 and synergistic cytotoxicity is seen when the AS 1411 is combined with AraC. In addition, the bone marrow compartment is accessible to AS 1411. Taken together these findings support investigating the anti-cancer effects of AS1411 in AML patients either alone or in combination with standard AraC therapy.

L35 ANSWER 5 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2007:96913 Document No.: PREV200700102420. Bone targeting peptide binds to **nucleolin**, inhibits Rac-GTPase signaling and prostate

cancer cell adhesion. Madhu, V. [Reprint Author]; Beck, G.; Huang, D.; Kagey, M.; Cui, Q.; Khosla, S.; Sikes, R.; Fox, J. W.; Balian, G.. Univ Virginia, Orthoped Res Lab, Charlottesville, VA 22903 USA. Journal of Bone and Mineral Research, (SEP 2006) Vol. 21, No. Suppl. 1, pp. S84.
Meeting Info.: 28th Annual Meeting of the American-Society-for-Bone-and-Mineral-Research. Philadelphia, PA, USA. September 15 -19, 2006. Amer Soc Bone & Mineral Res.
CODEN: JBMREJ. ISSN: 0884-0431. Language: English.

L35 ANSWER 6 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
2007:397163 Document No.: PREV200700398422. Expression and intranuclear distribution of **nucleolin** in estrogen receptor-negative and estrogen receptor-positive breast cancers in women measured by laser scanning cytometry. Masiuk, Marek [Reprint Author]. Pomorskiej Akad Medycznej, Zaklad Patomorfol, Ul Unii Lubelskiej 1, PL-71252 Szczecin, Poland. Roczniki Pomorskiej Akademii Medycznej w Szczecinie, (2006) Vol. 52, No. 2, pp. 23-32.
ISSN: 1427-440X. Language: English.

AB Introduction: **Nucleolin** (NU) is one of the most abundant nucleolar proteins. **Nucleolin** is mainly involved in ribosome biogenesis that is supported by the ability of NU to bind rDNA and modify the structure of chromatin by binding to histon H1. Estrogen receptor alpha (ER alpha) is a DNA-binding transcriptional factor. It is estimated that 69-85% of breast cancers in women are ER alpha-positive.The aim of the study was to assess the expression and intranuclear distribution of NU in invasive ductal and lobular breast cancers in women and their relationship to ER(x-status, histologic type and grade of breast cancer, and lymph node status. For this purpose, laser scanning cytometry (LSC) was used.Material and methods: Measurements were done in cytospins of **cancer cells** of 87 ductal and 11 lobular invasive breast cancers. The cells were labeled with mouse anti-human NU antibody followed by F(ab')(2) fragments of FITC-conjugated goat anti-mouse antibody. Nuclei were counterstained with 5 mu g/mL of propidium iodide in the presence of 100 mu g/mL of RNase A. All measurements were performed using LSC. The following parameters of individual **cancer cells** were calculated: NU fluorescence within the nucleus, within **nucleolin** aggregates (NUA) and in the remaining karyoplasm, number of NUA, area of the nucleus and NUA. The percentage of ER-positive breast **cancer cells** was calculated in parallel by the automated image analysis in formalin-fixed sections using immunohistochemistry with anti-ER alpha antibody. The cut-off value for ER-riegative tumors was set at 10% of positively stained nuclei. Statistical analysis was done using the Statistica 5.0 software. P values less than 0.05 were considered statistically significant.Results: The mean area of the nucleus of ductal **cancer cells** was significantly higher and NU expression lower in ER alpha-negative cancers than in ER alpha-positive ones ($p = 0.007$ and $p = 0.04$, respectively). The mean area of NUA and NU expression in ductal cancers were higher than in lobular cancers ($p = 0.03$ and $p = 0.02$, respectively). The expression of NU within the nucleus and within the karyoplasm besides NUA was significantly higher in ductal than in lobular cancers ($p = 0.02$ and $p = 0.04$, respectively). The expression of NU in the remaining karioplasm of tumor cells of lymph node-positive cancers was lower than in node-negative ones ($p = 0.04$). The same relation was found for ductal cancers ($p = 0.02$).Conclusions: The differences in **nucleolin** expression and its intranuclear distribution in ER alpha-negative and ER alpha-positive breast cancers, as well as ductal and lobular cancers point to biologic differences between these carcinomas. The method used in the study may be applied to measurements of expression and intranuclear distribution of other nuclear proteins or to simultaneous measurement of expression and distribution of nuclear and cytoplasmic proteins.

L35 ANSWER 7 OF 11 EMBASE

2005517713 EMBASE Vascular homing peptides with cell-penetrating properties.
Ruoslahti E.; Duza T.; Zhang L.. E. Ruoslahti, The Burnham Institute, Cancer Research Center, 10901 North Torrey Pines Road, La Jolla, CA 92037, United States. ruoslahti@burnham.org. Current Pharmaceutical Design Vol. 11, No. 28, pp. 3655-3660 2005.
Refs: 39.
ISSN: 1381-6128. CODEN: CPDEFP
Pub. Country: Netherlands. Language: English. Summary Language: English.
Entered STN: 20051215. Last Updated on STN: 20051215

AB In vivo screening of phage-displayed peptide libraries has revealed extensive molecular heterogeneity in the **blood** vessels of individual normal tissues and shown that pathological lesions put their signature on the vasculature. In tumors, both **blood** and lymphatic vessels differ from normal vessels. Moreover, the molecular changes in the vasculature parallel progression in tumor development, hence making the vessels in premalignant lesions distinguishable from normal vessels and from the vessels in malignant tumors of the same tissue. Some of the tumor-homing peptides penetrate into tumor endothelial cells (and tumor cells), but not into endothelial cells.in normal tissues or other normal cells. Thus, these cell-penetrating peptides are cell type-specific. Peptides that home to tumor vasculature have been shown to be useful in directing therapeutic agents to experimental tumors. The cell penetrating peptides may be particularly useful in drug delivery because they can take their payload inside the target cells and even into a specific subcellular organelle such as the nucleus. .COPYRGT. 2005 Bentham Science Publishers Ltd.

L35 ANSWER 8 OF 11 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN DUPLICATE 2

2003506346 EMBASE **Nucleolin** expressed at the cell surface is a marker of endothelial cells in angiogenic **blood** vessels.
Christian S.; Pilch J.; Akerman M.E.; Porkka K.; Laakkonen P.; Ruoslahti E.. E. Ruoslahti, Burnham Institute, 10901 North Torrey Pines Rd., San Diego, CA 92037, United States. ruoslahti@burnham.org. Journal of Cell Biology Vol. 163, No. 4, pp. 871-878 24 Nov 2003.
Refs: 41.
ISSN: 0021-9525. CODEN: JCLBA3
Pub. Country: United States. Language: English. Summary Language: English.
Entered STN: 20040105. Last Updated on STN: 20040105

AB A tumor-homing peptide, F3, selectively binds to endothelial cells in tumor **blood** vessels and to tumor cells. Here, we show that the cell surface molecule recognized by F3 is **nucleolin.** **Nucleolin** specifically bound to an F3 peptide affinity matrix from extracts of cultured breast carcinoma cells. Antibodies and cell surface biotin labeling revealed **nucleolin** at the surface of actively growing cells, and these cells bound and internalized fluorescein-conjugated F3 peptide, transporting it into the nucleus. In contrast, **nucleolin** was exclusively nuclear in serum-starved cells, and F3 did not bind to these cells. The binding and subsequent internalization of F3 were blocked by an antinucleolin antibody. Like the F3 peptide, intravenously injected antinucleolin antibodies selectively accumulated in tumor vessels and in angiogenic vessels of implanted "matrigel" plugs. These results show that cell surface **nucleolin** is a specific marker of angiogenic endothelial cells within the vasculature. It may be a useful target molecule for diagnostic tests and drug delivery applications.

L35 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

2002:371435 Document No. 137:366895 Characterization of the c-MYC-regulated transcriptome by SAGE: identification and analysis of c-MYC target genes.
Menssen, Antje; Hermeking, Heiko (Independent Junior Research Group, Max-Planck-Institute of Biochemistry, Molecular Oncology, Munich, D-82152, Germany). Proceedings of the National Academy of Sciences of the United States of America, 99(9), 6274-6279 (English) 2002. CODEN: PNASA6. ISSN: 0027-8424. Publisher: National Academy of Sciences.

AB To identify target genes of the oncogenic transcription factor c-MYC, serial anal. of gene expression (SAGE) was performed after adenoviral expression of c-MYC in primary human umbilical vein endothelial cells: 216 different SAGE tags, corresponding to unique mRNAs, were induced, whereas 260 tags were repressed after c-MYC expression ($P < 0.05$). The induction of 53 genes was confirmed by using microarray anal. and quant. real-time PCR: among these genes was MetAP2/p67, which encodes an activator of translational initiation and represents a validated target for inhibition of neovascularization. Furthermore, c-MYC induced the cell cycle regulatory genes CDC2-L1, Cyclin E binding protein 1, and Cyclin B1. The DNA repair genes BRCA1, MSH2, and APEX were induced by c-MYC, suggesting that c-MYC couples DNA replication to processes preserving the integrity of the genome. MNT, a MAX-binding antagonist of c-MYC function, was upregulated, implying a neg. feedback loop. In vivo promoter occupancy by c-MYC was detected by chromatin immunopptn. for CDK4, Prohibitin, MNT, Cyclin B1, and Cyclin E binding protein 1, showing that these genes are direct c-MYC targets. The c-MYC-regulated genes/tags identified here will help to define the set of bona fide c-MYC targets and may have potential therapeutic value for inhibition of **cancer cell** proliferation, tumor-vascularization, and restenosis.

L35 ANSWER 10 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

2002:151933 Document No.: PREV200200151933. Regulation of **nucleolin** in U937 cells treated with UV-light and cytotoxic drugs. Mi, Yingchang [Reprint author]; Rates, Paula J. [Reprint author]; Thomas, Shelia D. [Reprint author]; Xu, Xiaohua [Reprint author]; Casson, Lavona [Reprint author]; Miller, Donald M. [Reprint author]. James Graham Brown Cancer Center, University of Louisville, Louisville, KY, USA. Blood, (November 16, 2001) Vol. 98, No. 11 Part 2, pp. 139b. print.
Meeting Info.: 43rd Annual Meeting of the American Society of Hematology, Part 2. Orlando, Florida, USA. December 07-11, 2001. American Society of Hematology.
CODEN: BLOOAW. ISSN: 0006-4971. Language: English.

AB Levels of the nucleolar protein, **nucleolin**, are positively correlated with cell proliferation rate, and therefore elevated in **cancer cells** compared to normal cells.
Nucleolin is a multifunctional protein that has been implicated in many processes, including ribosome biogenesis, DNA replication, cell cycle progression and apoptosis. It has been identified as an apoptosis-associated protein in human Burkitt lymphoma cell line, and is cleaved by caspase-3. Poly(ADP-ribose) polymerase (PARP) is an enzyme involved in DNA repair and one of intracellular "death substrates", can also be cleaved by caspase-3. In this study, U937 (monocytic leukemia) cells were irradiated with UV-light or treated with 20 mM cytosine arabinoside (Ara-C), 10 mM camptothecin (CPT) for different times (2, 4, 8, 24 h) in the absence or presence of 3-aminobenzamide (3-ABA), an inhibitor of PARP. Alterations of **nucleolin** in both cytoplasm and nucleus, and PARP in nucleus were investigated by western blot analysis. Cell cycle parameters were determined using flow cytometry with PI staining. **Nucleolin** in the cytoplasm decreased 4h after UV-irradiation and did not come back until 72h. **Nucleolin** in the nucleus decreased 2h after UV-irradiation, and recovered 48h later. The active form of PARP (118-KD protein) began cleavage to an inactive form (89 Kda) 2h after UV-irradiation, became undetectable at 4h, and came back at 48h. 3-ABA pre-incubation could inhibit PARP cleavage by more than 50% at 4h, 8h, 24h. At the same time, 3-ABA also reduced the disappearance of **nucleolin** (both in cytoplasm and nucleus). We also compared cell cycle after UV-irradiation between 3-ABA pre-incubated and no 3-ABA treatment groups. Percentage of sub-G1 phase cells was the highest at 4h, and decreased gradually. The 3-ABA pre-incubated group had a higher percentage of S phase cells and a lower ratio of sub-G1 phase cells. Furthermore, we treated U937 cells using Ara-C and CPT, and found that **nucleolin** both in cytoplasm and nucleus was down-regulated over time and decreased markedly by 8h. PARP was cleaved to its inactive

form at 4h. Although pre-incubation with 3-ABA before drug treatment did not protect PARP cleavage, it protected **nucleolin** from decreasing (although to a lesser extent than in UV-irradiated cells). Using immunoprecipitation/western blot we determined that **nucleolin** and PARP could form a complex. Conclusions: **Nucleolin** plays an important role in leukemia cell apoptosis/death induced by anti-neoplastic agents and UV-irradiation. Alteration of **nucleolin** in nucleus precludes that in the cytoplasm. **Nucleolin** can form a complex with PARP, and acts as one of the substrates of PARP. **Nucleolin** is therefore a component of the caspase-dependent cell apoptosis mechanism.

L35 ANSWER 11 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

1994:542972 Document No.: PREV199598002520. Quantification of Ag-NOR proteins using Ag-NOR staining on western blots. Roussel, Pascal; Sirri, Valentina; Hernandez-Verdun, Daniele [Reprint author]. Inst. Jacques Monod, 2 Place Jussieu, 75251 Paris Cedex 05, France. Journal of Histochemistry and Cytochemistry, (1994) Vol. 42, No. 11, pp. 1513-1517.
CODEN: JHCYAS. ISSN: 0022-1554. Language: English.

AB Ribosomal genes are associated with a set of silver-stained nucleolar proteins, the Ag-NOR proteins, whose amount is directly related to the duration of the cell cycle. Quantification of Ag-NOR proteins by image analysis is presently used to evaluate the rate of proliferation of **cancer cells** and nucleolar activity. Our objective was to establish a procedure to quantify independently each major Ag-NOR protein in cell extracts. Computerized densitometry established that the specific silver staining of Ag-NOR proteins (Ag-NOR staining) performed on Western blots makes it possible to quantify Ag-NOR proteins. Using purified Ag-NOR proteins, **nucleolin**, and protein B23, we observed that the intensity of Ag-NOR staining is proportional to the amount of protein. A linear relationship exists between the intensity of Ag-NOR staining and the amount of **nucleolin**, in the range of 0.2-1.6 mu-g. Using total nuclear extracts prepared from mammalian cells, the proportionality was maintained for total Ag-NOR-stained proteins or for a particular protein. We also determined the levels of nuclear proteins suitable for quantitative analysis. Individual Ag-NOR proteins can be quantified by computerized densitometry in nuclear extracts after Ag-NOR staining on Western blots. This procedure can be applied to establish the contribution of each Ag-NOR protein in general staining, estimate the variability of each Ag-NOR protein in normal and pathological conditions, and quantify each Ag-NOR protein contained per cell.

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	170.00	170.21

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-12.48	-12.48

STN INTERNATIONAL LOGOFF AT 17:32:19 ON 24 JUL 2007